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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/662,952	09/12/2003	Rajesh Kaushik	01IND01852662_CIP1	1049

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EXAMINER	
LAM, TUAN THIEU	

ART UNIT	PAPER NUMBER
2816	

DATE MAILED: 05/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application N .	Applicant(s)	
	10/662,952	KAUSHIK ET AL.	
	Examiner	Art Unit	
	Tuan T. Lam	2816	

-- The MAILING DATE of this communication appears on the cover sheet with th correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 September 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 September 2003* is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *9/12/2003*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: page 11, paragraph 0037, line 1, "figure 3" is misdescriptive. It is suggested to change to --figure 8--. Page 12, lines 9 and 14, "figure 3" is misdescriptive. It is suggested to change to --figure 8--. Appropriate correction is required.

2. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). In this instant, the specification fails to provide antecedent basis for the limitations recited in claims 5, 10. Correction is required.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-5, 7, 12 and 14-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, the recitation of "a correcting stage monitoring supply voltage of at least one of the supply terminals in view of the control signal" is indefinite because it is misdescriptive. Figure 7 shows correcting stage monitoring supply voltage comprising elements N4 and N5 monitoring the power supply at node C2 independent of the control signal from the output driver stage. Clarification is required.

In claims 2, 7, 12 and 14, the recitation of "the correcting stage disables selected controllable output switches" in lines 2-3 is indefinite because it is misdescriptive. Figure 7 shows that the correcting stage disables only one controllable output switch (N2) not controllable output switches as recited. Correction is required.

Claims 3-5 and 15-17 are rejected under 35USC 112, second paragraph because of the technical deficiencies of claims 1 and 14.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 3, 4, 6, 8, 9, 11 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Taylor et al. (USP 4,862,018), prior art cited on the PTOL-1449. Figure 3 shows an output buffer comprising supply voltage terminals (Vs, ground), an output stage including multiple independently controllable output switches (D1, D2), an output driver (10) providing a control signal for the output stage, a correcting stage monitoring (ND1, ND2, 20) monitoring a supply voltage of at least one of the supply voltage terminals in view of the control signal, and dynamically controlling at least one of the controllable output switches so as to provide rapid response while limiting a supply voltage bounce at the supply terminals within a predefined limit as called for in claims 1, 4, 6, 9, 11 and 13.

Regarding claims 3 and 8, the controllable output switches (D1, D2) having output

terminals connected together, and at least one of the output switching transistors has a control terminal operated by the correcting stage.

5. Claims 1-4, 6-9 and 11-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Martin et al. (USP 5,153,457), prior art cited on the PTOL-1449. Figure 1 shows an output buffer comprising supply voltage terminals (Vcc0, GND0), an output stage including multiple independently controllable output switches (3, 4, 6, 7), an output driver (1) providing a control signal for the output stage, a correcting stage monitoring (2, 5, 8, 9) monitoring a supply voltage of at least one of the supply voltage terminals in view of the control signal, and dynamically controlling at least one of the controllable output switches so as to provide rapid response while limiting a supply voltage bounce at the supply terminals within a predefined limit as called for in claims 1, 3-4, 6, 8-9, 11, 13 and 15-16.

Regarding claims 2, 7, 12 and 14 the correcting circuit disables selected controllable switches (3, 4, 6, 7) whenever a sensed supply voltage bounce increases beyond a predefined threshold level and enables selected controllable output switches whenever the sensed supply voltage bounce falls below the threshold voltage level.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 5 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin et al. (USP 5,153,457), prior art cited on the PTOL-1449, in view of Van Bavel et al. (USP 6,566,904), newly cited prior art.

Figure 3 shows an output buffer comprising supply voltage terminals (Vs, ground), an output stage including multiple independently controllable output switches (D1, D2), an output driver (10) providing a control signal for the output stage, a correcting stage monitoring (ND1, ND2, 20) monitoring a supply voltage of at least one of the supply voltage terminals in view of the control signal, and dynamically controlling at least one of the controllable output switches so as to provide rapid response while limiting a supply voltage bounce at the supply terminals within a predefined limit.

What not shown in Taylor is the output switches are sized in binary weighted sequence as called for in claims 5 and 10. Van Bavel et al.'s figure 5 teaches that output switches an output buffer can be sized in a binary weighted fashion. This configuration will provide a flexible output impedance thus increasing speed. Therefore, it would have been obvious to a person skilled in the art at the time of the invention was made to configure Taylor's output switches in binary weighted fashion for the purpose of increasing speed at the output.

8. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Martin et al. (USP 5,153,457), prior art cited on the PTOL-1449 in view of Van Bavel et al. (USP 6,566,904), newly cited prior art.

Figure 1 shows an output buffer comprising supply voltage terminals (Vcc0, GND0), an output stage including multiple independently controllable output switches (3, 4, 6, 7), an output driver (1) providing a control signal for the output stage, a correcting stage monitoring (2, 5, 8,

9) monitoring a supply voltage of at least one of the supply voltage terminals in view of the control signal, and dynamically controlling at least one of the controllable output switches so as to provide rapid response while limiting a supply voltage bounce at the supply terminals within a predefined limit.

What not shown in Martin et al is the output switches are sized in binary weighted sequence as called for in claim 17. Van Bavel et al.'s figure 5 teaches that output switches an output buffer can be sized in a binary weighted fashion. This configuration will provide a flexible output impedance thus increasing speed. Therefore, it would have been obvious to a person skilled in the art at the time of the invention was made to configure Martin et al.'s output switches in binary weighted fashion for the purpose of increasing speed at the output.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. In this regard, applicant's cited prior art has been carefully considered.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan T. Lam whose telephone number is 571-272-1744. The examiner can normally be reached on Monday to Friday (7:30 am to 6:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, TIMOTHY P CALLAHAN can be reached on 571-272-1740. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tuan T. Lam
Primary Examiner
Art Unit 2816

5/10/2004